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## Grey Literature Citation in Doctoral Theses of Library and Information Science Awarded by the University of Burdwan from 2010 to 2019.

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**Grey Literature Citation in Doctoral Theses of Library and Information Science Awarded  
by the University of Burdwan from 2010 to 2019.**

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**ABSTRACT**

Grey literature has an important role in information transferring process. This present study evaluates the citations of grey literature by the researchers to analyze the citations of grey literature and grey literature forms in doctoral theses which are awarded by the Department of Library and Information Science by the University of Burdwan during the period from 2010 to 2019. For analyzing the data, average, percentage distributions (presented in charts, tables) and measures of central tendency are used here. The present study reveals that Grey Literature is the most utilized as reference materials in the theses. The highest number of Grey Literature cited in the year 2014, 109 citations per thesis and lowest number of Grey Literature cited in the year 2013, 16 citations per thesis. The result of this study may serve the user study in respect of collection, development and user services designing in libraries.

**Keywords:** *Citation Analysis, Grey Literature, Characteristic of grey literatures; Types of grey literatures references.*

**Introduction:** Grey literatures refer to the primary sources of information. This is unpublished and non-distributed in the usual manner. It is also difficult to obtain. Various forms of Grey literatures are conference proceedings, data exchange, dissertations or Theses, environmental impact statements, market research reports, online documents, oral presentations, technical report, and working papers etc. Producers of Grey literature are Government and non Government agencies, national and international agencies, profitable and non-profitable organizations, professional and non-professionals associations and also human resources. The present study is a citation analysis of grey literatures. Citation analysis is one of the thrust areas of research in Library and Information Science. It provides very useful insights to librarians and policy makers in terms of which sources to be purchased and what to be replaced. It has various advantages in providing accessibility and visibility to important raw data. It helps to provide information for improving the quality of research output. For analyzing the data, Frequency, percentage distributions (presented in charts, tables) are used. The present study reveals that Grey Literature is the most utilized reference materials in the theses in library and information sciences. The highest number of Grey Literature cited in the year 2014, 109 citations per thesis and lowest number of Grey Literature cited in the year 2013, 16 citations per thesis. . The result of this study may serve the user study in respect of collection, development and user services designing in libraries.

**1. What is Grey Literature?** The term “grey” in “Grey literature” has some connection to brain’s ‘grey matter’, which is highly significant in research. It is synonymous to Gray literature, fugitive literature, unpublished literature, non conventional literature, nontraditional publications

and ephemeral publications. According to Hornby's Oxford Advanced Learner's Dictionary, the word 'grey area' means "an area of a subject or situation that does not fit into a particular category." According to Harrod's Librarian's Glossary and Reference Book, grey literature is a 'semi published material' or not formally published or available commercially and consequently difficult to trace bibliographically.' Hence, grey literature refers to a large number of publications types produced by organizations or institutions outside of the traditional commercial or academic publishing or distribution channels. Examples of 'Grey literatures' are research and project reports, annual or activity reports, theses, conference proceedings, preprints, working papers, newsletters, technical reports, recommendations and technical standards, patents, technical notes, data and statistics, presentations, field notes, laboratory research books, academic courseware, lecture notes, evaluations, and many more. These are called traditional 'grey literature'. But, now, distribution channels of theses and dissertations have changed significantly in the digital age. They are generally still considered as grey literature. These types of 'grey literature' are called electronic grey literature'. In house publications are also called as Grey literature.

**2. Review of Literature:** Various studies are carried out on the citation analysis before this study. Here some studies have been reviewed on the present topics. Ruth Cordes, (Cordes, 2004) stated in the paper entitled "Is grey literature ever used? Using citation analysis to measure the impact of GESAMP' that the grey literature is an important source of information, even if great variability in its use and intensity has been observed among the different disciplinary fields. In a other study, Lisée, C. Larivière and Archambault (Larivière, V. & Archambault, 2008) informed that other types of literature are often published and cited by researchers, the most frequently used source material in bibliometric studies consist of published scientific papers. Dr. Asha Rani

and Dr. Sanjeev Sharma (Rani & Sharma, 2017) analyzed 5758 citations, appended in the 38 Ph.D. theses of Management to investigate authorship pattern of the citations, form of cited literature. The study found out that journals were the most preferred sources to the scholars in the field of Management. Mithu Anjali Gayan and Sanjay Kumar Singh (Gayan & Singh, 2018) analyzed the authorship pattern, year wise citations, country wise citations and publisher wise citations. Degree of collaboration in the discipline was found out by the researcher. An average citation per thesis in Mathematics is also revealed in this study. Venugopal D Hajje and Mulla K R(Haije & Mulla, 2018) analyzed the citations of Grey Literature and Grey Literature forms. Frequency and percentage are used to analyze the collected data. The highest number of Grey Literature cited in the year 2016 is 237 (26.99%) and lowest number of Grey Literature cited in the year 2012-2013 is 207 (23.57%). On the other hand, Kuburat Oluwakemi Towolawi (Towolawi, 2018) shared the experience regarding the acquisition and management of grey literature. It also focused on the nature and academic impact of grey literature. From the reviews of literature on the citation of grey literatures reveal that there were no study on grey literature citation in library and information science. So, this study is carried out.

**3. Objectives of the Study:** The main objectives of the study are in the following-

- To know the number of theses awarded by the Department of Library and Information Science, The University of Burdwan;
- To identify the types of grey literature in the references of theses used by researchers in Library and Information Science;
- To evaluate the actual use of grey literature in the field of the Library and Information Science;
- To explore the citations trend of Grey Literature in the selected theses.

**4. Scope of the study:** The study is limited only in the following area:

1. Only 20 theses are analyzed out of 22 theses awarded by the University of Burdwan from 2010 to 2019;
2. This study is limited on the discovering and scanning of bibliographic references of Doctoral theses;
3. Time period of this study is confined only in ten years, i.e. from 2010.to 2019.

**5. Methodology:** To evaluate the actual use of Grey Literature by the end users, the study examines the references of selected theses. Data have been collected from Shodhganga by downloading PDF file chapter wise from the portal of the University of Burdwan's collections. There are 22 Doctoral theses awarded by the Department of Library and Information Science in the University of Burdwan during 2010 to 2019. Out of 22 theses, 20 theses are selected for this study due to not uploading these two theses in Shodhganga or in the web portal of the University of Burdwan. No thesis is awarded in 2011 in Library and Information Science by the University of Burdwan. Citations are scattered at the end of the each chapters and also are appended separately at end of the theses in the form of bibliography. All bibliographic references of the theses are analyzed first and then studied the used grey literature by the authors in their theses. Year-wise, type-wise distribution and growth pattern of the use of grey literature are studied here. The collected raw data have been classified and stored in MS-Excel format for tabulating and presenting. The results are shown in graphical and tabular format. Each single reference is separately analyzed to see how many references are related to Grey literature documents. The number of electronic grey literatures out of total grey literature is also calculated here with Simple percentage, average and with cumulative percentage.

## 6. Data Analysis and discussions:

Table 1 List of awarded theses in Library and Information Science by the University of Burdwan during the period from 2010 2019.

Sl. No	Name of the Researches	Title of the Theses	Name of the Supervisors	Awarded Date
1.	Md.Anisur Rahman	Use of information technology in some selected university libraries of Bangladesh : An analytical study	Prof.A.K Bondyopadhyay	11.08.2010
2.	Md.Musleuddin	Medical college Libraries West Bengal : Present status and a plan for future development.	Dr. Tridib Tripathi	10.09.2010
3.	Sri Chinmay Mukhopadhyay	Application of TQM in the Libraries of some selected Academic institutions in Kolkata: A comparative study	Dr. Tridib Tripathi	04.01.12
4.	Sri Timir Kumar Lahiri	Computer application in college libraries in North 24Parganas(W.B): Status, problems and prospects Status, problems and prospects	Dr. Tridib Tripathi	10.07.2012

5.	Sri Dipak Kumar Seal	Information needs, Awareness and Information Seeking Habits of Elected Women Representatives of Local Government : A study with Special Reference to the Panchayatiraj institutions in West Bengal	Prof. Subal Chandra Biswas	13.07.2012
6.	Sri Samir Kumar Jalal	Indian University on the web: Analysis of Hyperlinks through the application of web enteric Tools and Techniques	Dr. Parthasarathi Mukhopadhyay & Prof. Subal Chandra Biswas, BU	14.08.2012
7.	Sri Nimai Chand Saha	Application of information and communication Technologies in University Libraries in West Bengal: The Human resource perspective	Prof. Subal Chandra Biswas	08.10.2012
8.	Sri Amitava Nandi	Contributions of the University of Burdwan in pure science research in West Bengal: An analytical study.	Prof. Amit Kumar Bandypadhyay	12.11.2012
9.	Sri Janmejyot Thakur	Intellectual property information and its role and importance in knowledge Generation and industrial development in India	Dr. Tridib Tripathi & Dr. Chittaranjan Sain	25.7.2013



10.	Anita Bhattacharya	“Paschimbanger Sadharan Granthagar Byabasthake Susambadhha Karar Kshetre Rajyya Kendrio Granthagar O Jela Granthagar Samuher Bhumika”	Dr. A.K.Bandyopadhyay	28-05-2014
11.	Sri Niharendu Dutta	Role of RRRLF in the Development of public libraries in West Bengal	Dr. Tridib Tripathi & Dr C.R. Sain	02-06-2014
12.	Sri Bijon Kumar Roy	Designing Institutional Digital Repository for the University of Burdwan : A FLOSS Based protitype	Prof. Subal Chandra Biswas and Dr. Parthasarathi Mukhopadhyay	05-08-2014
13.	Sri Arup Kumar Mandal	Application of ICT & its Impact on Job Satisfaction among Library Professionals of the State funded General Universities of West Bengal	Dr. A.K.Bandyopadhyay	31.7.2015
14.	Sri Sunil Mushib	Information needs and information seeking behaviour of the residents of Purulia Town of West Bengal	Dr. Subal Chandra Biswas	30.08.2015
15.	Sri Dipendra Raya Chetty	A Study of the Buddhist Monastic Libraries in the Hill-	Dr. Tridib Tripathi	15-10-2015

		Region of Darjeeling District		
16.	Bairam Khan	Performance Audit of Some Selected University Libraries in West Bengal : A Framework for Evaluation	Dr. Tridib Tripathi	31.03.2016
17.	Harun Or Rashid	Role of Information Centres in Sustainable Development : Study Based on Dhaka Division, Bangladesh	Dr. Tridib Tripathi	18.05.2016
18.	Sukumar Mandal	Designing and developing of an integrated information management and retrieval system for college libraries under the University of Burdwan	Dr. Tridib Tripathi & Dr. Parthasarathi Mukhopadhyay	10-03-2017
19	Subarna Bandyopadhyay	Organization of community information resource : A Framework for public libraries of West Bengal	Dr. Parthasarathi Mukhopadhyay	19-04-2017
20	Dr. Prosenjit Sarkar	Designing a Framework for Managing Electronic Theses and Dissertations in the University of Burdwan	Dr P.S. Mukhopadhyay	04-10-2018
21	Debabrata Roy	Information Literacy of the Research Scholars in the University of Burdwan : An	Dr. Tridib Tripathi	22-01-2019

		Analytical Study		
22	Barnali Roy Choudhury	Designing Web 2.0 Enabled Community Information systems and Services for Public Libraries in West Bengal	Dr. P.S. Mukhopadhyay & Dr. S.C. Biswas	21-01-2019

Table 1 shows that total 22 theses are awarded by the University of Burdwan during the period 2010 to 2019. The highest numbers of theses, i.e. 6 theses are awarded in 2012 by the University. Two theses are awarded in the following year 2010, 2016, and 2017 and 2019. Three theses are awarded in 2014 and 2015 by the university and only one thesis is awarded by the University of Burdwan in the year 2013 and 2018.

Table 2 Year wise Citations of Bibliographic forms in the theses awarded by the University of Burdwan (2010 -2019).

Awarded Year	Number of awarded thesis or theses	Citations of Traditional Grey Literatures	Citations of Electronic Grey Literatures	Citations of Journals	Citations of Books
2010	2	111	88	90	108
2012	5	174	133	471	197
2013	1	16	210	26	14
2014	2	218	266	257	262

2015	3	67	58	219	117
2016	2	130	147	80	83
2017	2	111	243	188	97
2018	1	29	99	245	40
2019	2	97	293	140	68
Citations	20	953 (18.36%)	1537 (29.60 %)	1716 (33.05 %)	986 (18.99%)

\*No theses are awarded in 2011 in library and Information Science by the University of Burdwan.

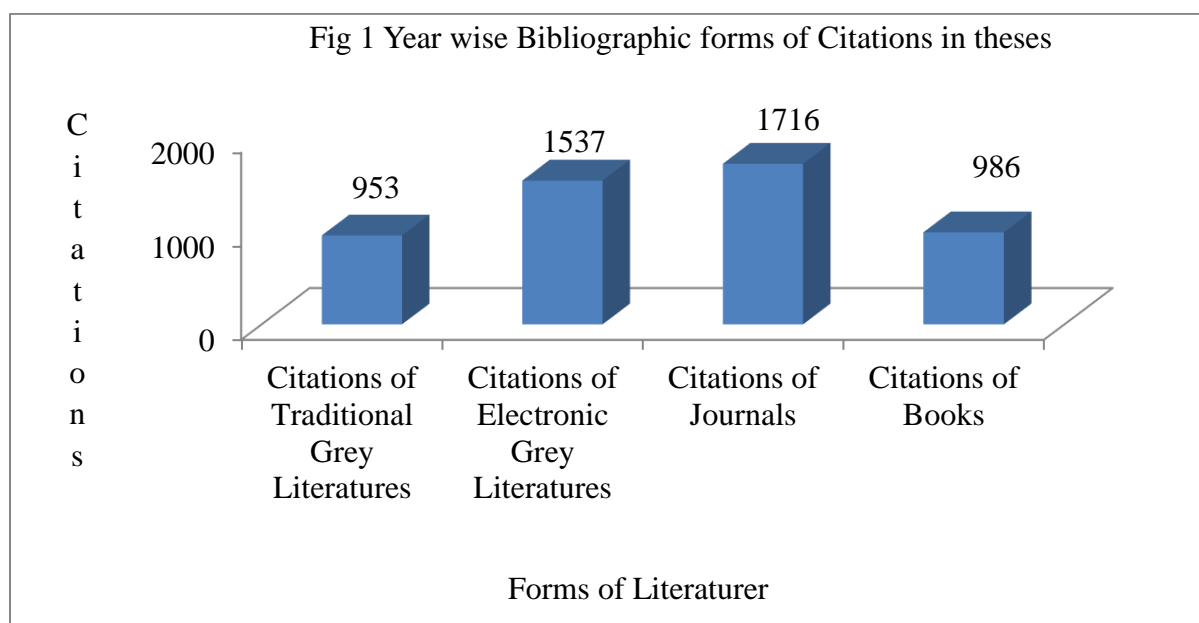


Table 2 Fig 1, explores the year wise citations of bibliographic formats in the theses awarded by the University of Burdwan. Out of total 5192 citations, the distributions of bibliographic formats are: cited traditional grey literature 953 citations (18.36 %), cited electronic grey literatures 1537 citations (29.60 %), cited journal 1716 citations (33.05 %) and cited books 986 citations (18.99 %).

%). From this table, it is clear that the grey literature citations are 2490 citations out of 5192 citations, i.e., 47.96 % which indicates that the grey literatures play a vital role in enhancing research and development.

Table 3 Year wise citations of Traditional Grey Literature in the selected theses (2010-2019).

Forms of Trad. Grey Literatue	Years								
	2010	2012	2013	2014	2015	2016	2017	2018	2019
Total number of citations	111	174	16	218	67	130	111	29	97
Number of theses year wise	2	5	1	2	3	2	2	1	2
Average citations year wise	55.5	34.8	16	109	22.33	65	55.5	29	48.5

\*No theses are awarded in 2011 in library and Information Science by the University of Burdwan. Trad. Grey Literature is for traditional grey literature.

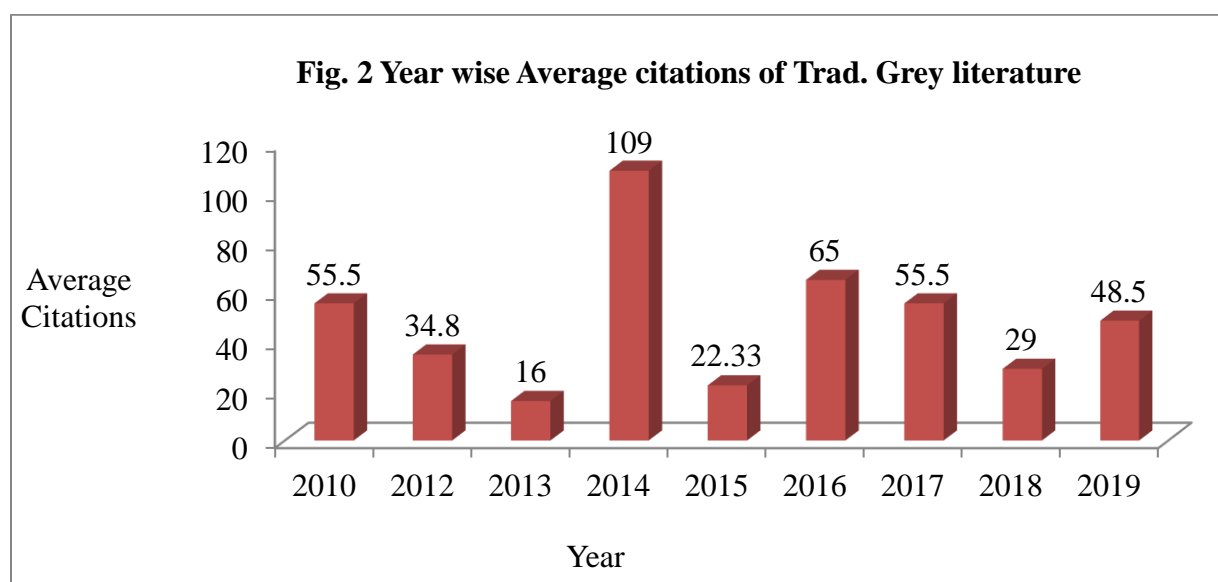


Table 3 and Fig 2, exposes the year wise citations of traditional grey literatures in the theses awarded by the University of Burdwan. Out of total 953 citations, the average citations of traditional grey literatures are: 55.5 in 2010, 34.8 in 2012, 16 in 2013, 109 in 2014, 22.33 in 2015, 65 in 2016, 55.5 in 2017, 29 in 2018 and 48.5 in 2019. From this table, it is clear that the traditional grey literature citations are decreasing day by day.

Table 4 Year wise Citations of the Electronic Grey Literature (E-Grey Lit.) in the selected theses (2010 – 2019).

Years									
	2010	2012	2013	2014	2015	2016	2017	2018	2019
Citations of E-Grey Lit.	88	133	210	266	58	147	243	99	293
Number of theses year wise	2	5	1	2	3	2	2	1	2
Year wise average E-Grey Lit. Citations	44	26.6	210	133	58	73.5	121.5	99	146.5

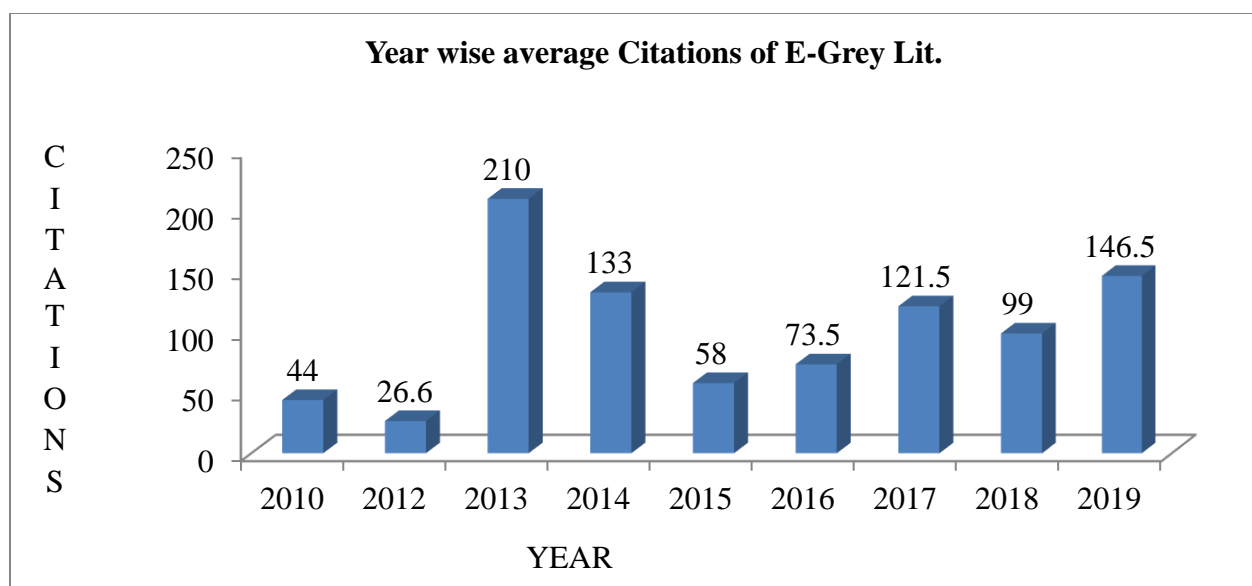


Table 4 and Fig 3, presents the year wise citations of electronic grey literatures in the theses awarded by the University of Burdwan. Out of total 1537 citations, the average citations of electronic grey literatures are: 44 in 2010, 26.6 in 2012, 210 in 2013, 133 in 2014, 58 in 2015, 73.5 in 2016, 121.5 in 2017, 99 in 2018 and 146.5 in 2019. From this table, it is clear that the use of electronic grey literature citations are increasing day by day.

Table 5 Form wise distribution of Traditional Grey Literature appearing in the selected theses

Forms of Traditional Grey Literatures	Total Citations	Percentage	Cumulative Citations	Cumulative Percentage	Rank
Conference	249	26.13	249	26.13	2
Research and Technical Reports	252	26.44	501	52.57	1
Technical Standards	107	11.23	608	63.80	4
Newsletters	53	5.56	661	69.36	6
Lecture notes	197	20.67	858	90.03	3
Theses and Dissertation	95	9.97	953	100.00	5

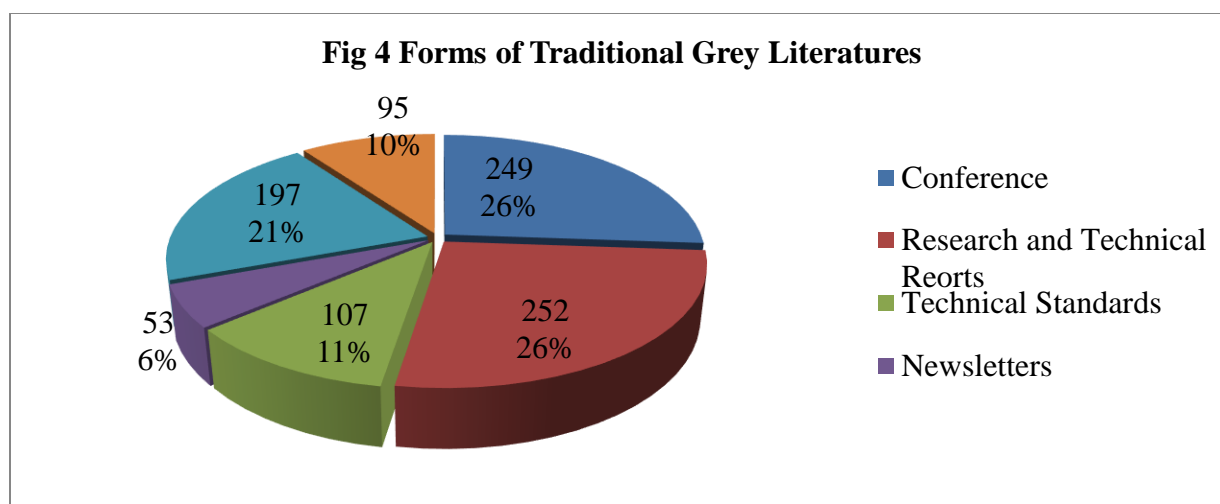


Table 5 and Fig 4, shows the citations of various forms of traditional grey literatures. Among various forms, Government publications are cited mostly, i.e., 252 citations (26.44 %). The remaining citations are conference paper 249 citations (26.13 %), Seminar papers 197 citations (20.60 %) and 107 citations for Handbooks. From this table, it is clear that the recent grey literature is used more frequently than that of age old grey literatures.

**7. Findings:** In the present study 5192 citations are analyzed from 20 theses in Library and Information Science. Among them, 2490 citations (47.95%) are in grey literatures. Out of 2490 citations, 953 citations (38.27 %) are in traditional grey literature forms and 1537 citations (61.73 %) are from electronic grey literature forms. On the basis of the study, the following conclusions are drawn:

1. From Table 2, it is clear that the grey literature citations are 2490 citations out of 5192 citations, i.e., 47.96 % which indicates that the grey literature play a vital role in enhancing research and development.



2. Table 3 and Fig 2, suggests that the traditional grey literature citations are decreasing day by day.
3. Table 4 and Fig 3, indicates that the use of electronic resources is increasing day by day.
4. From Table 5, it is clear that researchers mostly depend on conference and Seminar papers. The citations of conference papers are 249 citations (26.13 %), Seminar papers 197 citations (20.60 %). It indicates that the researchers mostly depend on the recently discussed information.

**8. Conclusion:** It is hoped that this study portray the growth in the production and use of grey literatures in support of teaching, learning and research. This present study will help the libraries in selection of useful sources as there is explosion of information and documents in the form of books and journals. The ranking of the forms of grey literatures can be used by librarians and researchers to select the grey literatures of greater importance in a particular subject area.

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